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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,373	01/22/2002	Jiong Chen	AIBT 12K09	5885

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10/10/2003

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EXAMINER

HARRIS, ANTON B

ART UNIT

PAPER NUMBER

2831

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,373

Applicant(s)

CHEN ET AL

Examiner

Anton B Harris

Art Unit

2831

A.W.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 12 is objected to because of the following informalities:

Claim 12 recites "The method of claim 12...". A claim cannot depend from itself. The Office interprets the claim to be "The method if claim 11...". Appropriate correction is required.

Any further rejection of, or indications of the allowability of claim 12 is based on claim 12, as it is understood by the Office.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 7, 8, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubly et al.

Regarding claim 1, Kubly et al. (col. 6, lines 11-64) discloses a movable chuck portion 102, a substrate 108, and an input source (col. 6, lines 11-15).

Regarding claim 2, Kubly et al. (col. 6, lines 11-64) discloses that the substrate 108 comprises a silicon wafer having a diameter of at least about eight inches.

Regarding claims 3 and 7, Kubly et al. (col. 6, lines 11-64) discloses a substrate 108 and a movable chuck portion 102.

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Regarding claim 4, Kubly et al. (col. 6, lines 11-64) discloses a split electrode electrostatic chuck 102.

Regarding claim 8, Kubly et al. (col. 6, lines 11-64) discloses a movable chuck portion 102, a substrate 108, and a stationary substrate-receiving portion 115b.

4. Regarding claims 1-5, 7, and 8 the methods disclosed therein are deemed as inherent in the assembly of the apparatus as claimed as fully met by the references Kubly et al. (5,793,192 cited by Applicant) used in the rejections above and are subsequently rejected.

Regarding claim 16, Kubly et al. (col. 6, lines 11-64) discloses a system comprising:
an input source (col. 6, lines 11-15),
a chuck system 102 having:

a substrate receiving surface 115b that receives the substrate 108 in an essentially non-deformed shape, and

a force applying portion (col. 3, lines 21-33), that applies an attractive force between the substrate 108 and the chuck system 102 that maintains the substrate in a deformed shape.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 6, 9-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubly et al. in view of Takeyama.

Regarding claim 6, Kubly et al. discloses the invention substantially as claimed, but lacks a curvature of the substrate selected from the group consisting of spherical, conical and cylindrical.

Takeyama (abstract) teaches a curvature of the substrate selected from the group consisting of spherical, conical and cylindrical.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kubly et al. by providing a curvature of the substrate selected from the group consisting of spherical, conical and cylindrical in order to prevent the implanted ions from deviating from the perpendicular in view of the teachings of Takeyama.

Regarding claim 9, Takeyama (abstract) teaches a curved stationary substrate-receiving portion 1b.

Regarding claims 10-15, Kubly et al. discloses a wafer 108, a chuck portion 102, and an input source (col. 6, lines 11-15), but lacks a concave chuck portion.

Takeyama (abstract) teaches a concave chuck portion 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kubly et al. by providing a concave chuck portion in order to prevent the implanted ions from deviating from the perpendicular in view of the teachings of Takeyama.

7. Regarding claims 6 and 9-15, the methods disclosed therein are deemed as inherent in the assembly of the apparatus as claimed as fully met by the references Kubly et al. (5,793,192 cited by Applicant) and Takeyama (5,218,209 cited by Applicant) used in the rejections above and are subsequently rejected.

Regarding claim 17, Kubly et al. discloses the invention substantially as claimed, but lacks an ion implantation source.

Takeyama (abstract) teaches an ion implantation source.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Kubly et al. by providing an ion implantation source in order to implant ions into a batch of semiconductor wafers in view of the teachings of Takeyama.

Regarding claim 18, Takeyama (abstract) teaches that the substrate-receiving surface 1b has a type of curve selected from the group consisting of spherical, conical, and cylindrical.

Regarding claim 19, Takeyama (abstract) teaches that the force-applying portion (col. 1, lines 10-12) includes a movable portion that moves with respect to the substrate-receiving surface 1b to change the substrate 2 from the non-deformed shape to the deformed shape.

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Regarding claim 20, Kubly et al. (abstract) discloses that the force applied by the movable portion is selected from the group consisting of electrostatic force and Takeyama (abstract) teaches that the force applied by the movable portion is selected from the group consisting of and mechanical force.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suzuki U.S. Patent No. 4,692,836 discloses an electrostatic chuck using a potential difference to hold a substrate.


Hendix et al. U.S. Patent No. 6,156,623 discloses mechanical deformation of a wafer substrate.

Sherman U.S. Patent No. 6,141,203 discloses an electrostatic chuck including a non-deformed substrate.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anton B Harris whose telephone number is (703) 305-4764. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dean Reichard, can be reached on (703) 308-3682. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-1341.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

 9/30/03
DEAN A. REICHARD
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TECHNOLOGY CENTER 2800